CENTENARY COLLEGE

Student Research

Forum

April 7, 1995

JUDGES:

Dr. Mary Barrett
Dr. Tom Ticich
Dr. Mark Fisch
Dr. George Newtown

12:55	Opening
1:00	Amy Andrews
1:10	Alicia Billiot
1:20	Kim Brobst
1:30	Brian Wilson
1:45	Holly Rice
2:00	Shane Schruff
2:15	Cynthia Wood
2:30	Heather Turnbull
2:45	Dallas Yellott
3:00	Cory Mason
3:15-3:30	Break
3:30	Christine Turner
3:45	Elton Graugnard
4:00	Sonia Monroe
4:15	Kelley McCrary
4:30	Jake Olivier
4:45	Jim Pagano
5:00	Randy Wooley
5:15	Tiffany McMahan
5:30	Robert Caldwell
5:45	Jay Morgan
6:00	Sarah Rabb
6:15	Erich Nunn
6:30	Michael Finnegan

The Effects of Communicative Reading Strategies on the Literacy Skills of Two Reading Disabled Children and One ESL Child

*AMY ANDREWS, ALICIA BILLIOT, and KIM BROBST
Department of Education, Social Sciences Division

Three children with language and reading difficulties were pretested using three standardized norm-referenced instruments (Test of Language Development-I 2, Basic Reading Inventory, and Test of Written Language 2), designed to assess level of literacy acquisition. A language sample was also obtained and analyzed. Communicative Reading Strategies, a remedial reading approach that emphasizes comprehension rather than decoding, was used for corrective intervention. Following intervention, posttesting was conducted; changes in language and reading performance will be examined and discussed.

Psychometric Tests of Reliability and Validity for the Five-Scale Test of Self-Esteem in Children

LERA JOYCE JOHNSON, ROBERT FLEMING, BRIAN WILSON*, LOULA BURTON, JULIE SUTTON, and TIFFANY POOL
Department of Psychology
Division of Social Sciences

Academic self-esteem, the self-evaluation of one's cognitive or academic competence, is a reliable predictor of children's school achievement as well as their curiosity and achievement motivation (Harter, 1981; Marsh, Barnes, Cairns, & Tidman, 1984; Marsh, Smith, & Barnes, 1985). The Five-Scale Test of Self-Esteem for Children (Pope, 1988) is an unpublished test designed to assess global, academic, social, physical and familial self-esteem. Although the test lacks psychometric data, its author suggests that it may be useful to compare the relative strengths and weaknesses of the child's scores on its component scales and to help forge a description of the child. The Five-Scale Test has been employed by the Center for Learning Enhancement And Research (CLEAR) to measure the academic self-esteem of tutees who are referred to their program from local school districts.

The purpose of the present study was to provide psychometric data to confirm inferences made from scores on the Five-Scale Test. Reliability, a measure of the consistency of the scale, was assessed through a test-retest method. Construct validity, the extent to which the scale measures what it was intended to measure, was assessed by correlating scores from the Five-Scale Test with those from other well-established tests of self-esteem, the Coopersmith Self-Esteem Inventory (Coopersmith, 1967) and the Self-Esteem Scale (Rosenberg, 1965; Blasovich & Tomaka, 1991).

A Study of Word Frequency as Representative of Written Language on the National and Collegiate Levels

*HOLLY V. RICE
Department of Psychology, Centenary College

The purpose of the present study was to determine if there is a difference between written language at the collegiate level as opposed to written language nationally The determinant of written language was word frequency. The number of times words were used and repeated was tabulated from approximately fifteen newspapers from various colleges and universities around the United States. The frequency list compiled from the collegiate newspapers was compared with frequency lists compiled from national newspapers and other printed media. The hypothesis is that there will be a difference between the word frequencies of written language from colleges and those from the nation as a whole. Preliminary results have supported this hypothesis.

Spatial Learning: Right Hemisphere Advantage

* SHANE SHRUFF
Psychology Department, Social Science Division

A decade of research with split brain subjects has shown that the left hemisphere specializes in verbally oriented tasks and the right in spatially oriented tasks. It is even possible to demonstrate hemispheric specialization in intact subjects when the stimuli are presented first to one hemisphere and then to the other using reaction-time experiments. The novelty of this study was to demonstrate a right hemispheric advantage over the left by measuring learning rates. The primary stimulus material used was a maze with one hundred choice points which required a typical subject 6 minutes to traverse from start to finish during right hand trials and 8 minutes during left hand trials. The average number of errors for right hand trials was 18 and for left land trials 15. With repeated trials, there was greater improvement with the left hand than the right supporting the hypothesis of a right hemisphere advantage in spatially oriented tasks.

Night as Wilderness

* CYNTHIA A WOOD
Department of Sociology

The percentage of night-shift workers was determined, using data from the current population survey, to have leveled off since the early 1970's and is growing only so much as the labor force.

Lost In America: The Fate of Homeless Mentally Ill Veterans

*HEATHER TURNBULL
Department of Sociology

Homelessness and mental illness is a national problem on a large scale, with estimates of the total homeless population ranging from 250,000 to more than ten times that number. Approximately one-third to one-half of the population is composed of homeless veterans. I have chosen to focus on this particular veteran population because I have known many homeless and mentally ill veterans through my father who has been closely associated with the problem as a VA social worker. In the late 1970's and through the 1980's, he worked in the community organizing and maintaining group homes for these veterans through the "Independent Group Living Program". Unfortunately, deinstitutionalization has reduced these outpatient programs considerably. The inpatient programs have been reduced to two or three week process, with quick stabilization on medication and discharge back into the community. However, many of these veterans cannot rely on their medications without daily supervision and soon return to their former condition which, in many cases, is living as "street people." How does the

Don't Ask, Don't Tell, Don't Pursue:
Questioning U.S. Policy on Gays in the Military

*DALLAS A. YELLOTT
Department of Political Science

Much controversy has arisen over the U.S. government's policy concerning homosexuals in the military. The latest policy, known as "Don't Ask, Don't Tell, Don't Pursue," has been hailed by supporters as a compromise over the previous exclusion of homosexuals and criticized by opponents as a violation of constitutional rights. This research endeavor presents the historical and political development of the present policy, with particular focus given to various questions about the policy's constitutionality. With an examination of the impact of "Don't Ask, Don't Tell, Don't Pursue," as well as analysis of the problems in its implementation, conclusions are made concerning the feasibility of the military's policy on homosexuals.

John Rawls: The Pursuit of Social Justice

* Cory Mason IV
Department of Political Science, Political Theory

The development of John Rawls' theory of justice in the wake of libertarian, communitarian, and liberal critiques.

Temperature Studies on Metalloporphyrins Using Spectrophotometrical Methods.

*CHRISTINE TURNER and DR. JUAN RODRIGUEZ
Department of Physics and Chemistry, Science Division

The effect of temperature on metalloporphyrin absorption was studied with zinc octaethyl porphyrin (ZnOEP) and magnesium octaethyl porphyrin (MgOEP) samples. This was determined by preparing a porphyrin sample in silicone oil (Dow Corning 550), placing it in square glass tubing which was vacuum-sealed, and applying heat by a heater. Spectral data was recorded from 25°C up to 250°C. ZnOEP and MgOEP have distinct absorption bands, which broaden with increasing temperature. The higher intensity bands were observed to be diminishing in size at each increase in temperature. Complex wavelength shifts were observed which we attributed to solvent effects.

Measuring the speed of sound in soil using Rayleigh waves.

*ELTON GRAUGNARD, JAMES SABATIER, and JOEL CANNON.

Department of Physics, Science Division

We report the results of a study using Rayleigh waves produced by a 70 lb. shaker to measure the speed of sound in uncultivated soil. We calculated the speeds from the phase difference between two vertical microphones. After analyzing the data, we were sufficiently certain that only Rayleigh waves were measured. Preliminary measurements indicated speeds of approximately 125 m/s ±10 % in a frequency range of 50 to 300 Hz.

The Propagation of Annual Plants

*Sonia Monroe
Department of Mathematics, Science Division

The reproduction of annual plants can be accurately represented using a mathematical model. Constructing such a model proves quite challenging when one considers several changes in the seed banks of annuals that affect their reproductive process. For instance, all seeds do not germinate at the same time. A direct result of this is the partial mortality and aging of the seeds. An obvious change in the seed bank will also take place when these plants produce new seeds at the end of their growing season. This lecture will demonstrate the most consistent and efficient methods for creating said model and show how the model is applicable for certain values of the parameters and variables.

Using the Nicholson-Bailey Model to find densities of parasitoid and host populations.

MCCRARY, KELLEY, and YVONNE YAZ.
Department of Mathematics, Science Division

The Nicholson-Bailey Model examines the host-parasitoid system using a theoretical model of linear difference equations. To examine these systems properly, equilibrium and stability must calculated.

Mathematic Modeling of Growth in a Chemostat.

*JACOB OLIVIER

Department of Mathematics

A mathematical model was determined for the change in nutrient concentration with respect to time and the change in the bacterial population density with respect to time inside the growth chamber of a chemostat. Also, the steady-state solutions for those derived functions was determined.

Asymmetrical Mating Strategies in Humans

JIM PAGANO and MEMBERS of BIOL 403
Department of Biology, Science Division

Male animals, including humans, produce small, inexpensive gametes that are easily disseminated. Therefore, males increase their reproductive success by maximizing their frequency of copulations. However, females contribute large gametes that are energetically expensive to produce. Therefore, a female's reproductive success is a function of the quality of the male from whom she chooses to accept sperm. Because of these reproductive asymmetries, males attempt to sell themselves to females who are seeking quality males. To study this seeker-seller asymmetry, the Animal Behavior class (BIOL 403) gathered information from the *Shreveport Times*, *Times Picayune*, and the *Arkansas Gazette* personal ads. A total of 499 ads were examined for sexual asymmetries. A seller ad was defined as any ad that made claims to the qualities of its writer. A seeker ad was defined as any ad with the term "looking for" or any derivation thereof. We found that most individuals who placed ads, regardless of sex, were both seekers and sellers. However, we found other differences in ad content based on sex, age and race.

The Effects of cGMP Dependent Protein Kinase on Recombinant Human GABA Receptors

RANDY WOOLEY* (under the supervision of NANCY LEIDENHEIMER Ph.D.)
LSUMC Department of Pharmacology
Centenary Department Of Biology

Experiments were performed to determine the effects of cyclic guanosine monophosphate (cGMP)- dependent protein kinase (PKG) on the human γ-Aminobutyric acid receptor (GABA). Receptor function was measured using the electrophysiological technique of two electrode voltage clamp on Xenopus oocytes expressing human GABA receptors. This technique allows for the measurement of desensitization and peak amplitude. Desensitization describes the decreasing response of a receptor with continued application of GABA. Peak amplitude refers to the amount of current produced when the GABA receptor is opened due to the binding of GABA. The effects of both activating and inhibiting PKG were observed. After performing experiments with KT5823, a specific inhibitor of PKG, it was determined that the mean of this data did not differ from control data at the .05 level. The general trend however was an increase in peak amplitude after application of the inhibitor. A significant correlation does exist between the change in peak amplitude as compared to the resulting change in desensitization after application of the inhibitor. The data obtained from the effects of activating PKG is in the process of being analyzed. It is possible that PKG is simply not active in the oocytes, further experiments will involve injection of the purified kinase (PKG).

Computerization of the Petroleum Industry: Computer Mapping Programs

*TIFFANY MCMAHAN
Department of Geology

The Petroleum Industry has been completely revolutionized by the production of computer mapping programs. These programs offer the combination of computer technology and mapping variability never seen before by this industry. One such program, Mapping Contouring System, has allowed an incredible flexibility and diversity in the recreation of faults in hydrocarbon fields. Because of its' powerful ability to interpret fault data, it has transformed a time-consuming, paper and pencil process into a state-of-the-art journey limited only by the geologist's imagination.

Human Anatomy in Goethe's Faust I

*ROBERT L. CALDWELL, MARK GRUETTNER, PHD
Department of Foreign Languages, German Division

Johann Wolfgang von Goethe, Germany's greatest poet, assimilated his scientific interest in the human body in many of his works. Goethe was also a noteworthy scientist of Botany, Physics, Mineralogy, Anatomy and Zoology. I think it would be enlightening to analyze the relationship between science and literature and how one can compliment the other. My objective is to further explore this facet of Goethe's literature, with regard to Faust I.

Knowledge, Truth and Self in Goethe's Faust I.

JAY ANTHONY MORGAN, MARK M. GRUETTNER, Ph.D.
Department of Foreign Languages, German Division

I would like to analyze the importance of Doctor Faust's quest for knowledge in Johann Wolfgang von Goethe's Faust I. The following questions shall guide my research: How does Faust's philosophy premeditate his actions? Does Faust's obsessive search for knowledge lead him to an ultimate truth? My working hypothesis is that rather than being led divinely, or otherwise, to an ultimate truth, Faust is brought back to himself.

Pathways to God: Changes in Faith as Shown By Emily Dickinson's Poetry and Leonard Bernstein's Mass

*SARAH BROOK RABB
Department of Music, Humanities Division

The works of Leonard Bernstein and Emily Dickinson are roughly parallel in their treatment of how faith changes in life. Through a study of Emily Dickinson's poetry and the musical work by Leonard Bernstein called Mass: A Theatre Piece for Singers, Players, and Dancers, one can draw many of these parallels out and study their unique approach to a very human problem with faith: doubt. This paper attempts to make these similarities more apparent and explores this progression in the exploration of faith.

"Signifying Gangsta: N.W.A's 'F--- tha Police' as Oppositional Transcript"

*ERICH NUNN
Department of English/ Humanities Division

This paper undertakes a textual analysis of F--- tha Police,' an oft-cited, highly significant and controversial song by rap group N.W.A. It examines how the text functions oppositionally, that is, how it transgresses against the dominant public paradigm by inverting perceptions and representations of societal relationships. I argue that the song offers an antithegemonic counternarrative of police relations to its subjects. Among the aspects of this study is a close reading of the text itself, including discussions of the context in which it was produced, disseminated, and consumed; and of its subtexts, most significantly the tensions which exploded in the beating of Rodney King and the subsequent L.A. riots.

Attack Campaigning: Does It Work?

MICHAEL FINNEGAN *
Department of Liberal Arts.
Dr. George Newtown

Negative campaigning is prevalent in most governmental elections. Direct attacks, issue or image oriented, is a favorite of candidates who engage themselves in negative campaigning. My research involves three governmental elections of different level and how they were influenced by negative campaigning. Where it may have been a popular and successful approach in the past, voters in recent elections are turned off by smudge campaigns. The results of my research indicate that negative campaigning, especially the direct attack, is not an effective campaign strategy in governmental elections.